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# OBSERVATIONS

ON

## CHOLERA,

MADE DURING A VISIT TO SUNDERLAND,

UNDERTAKEN BY DIRECTION OF THE

BIRMINGHAM TOWN INFIRMARY

BOARD OF HEALTH,

IN THE MONTHS OF NOVEMBER AND DECEMBER, 1831.

BY

GEORGE PARSONS,

SURGEON TO THE BIRMINGHAM TOWN INFIRMARY.

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Nova Mortis Imago.

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## ADVERTISEMENT.

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THE following Observations on the Disease to which so many persons in this country have already fallen victims, form the substance of a Report made by Mr. Parsons, one of the Surgeons of the Town Infirmary, to the Board of Health of that Establishment. They are published by the Overseers and Guardians of the Poor of Birmingham, under a strong impression that the contents thereof must be of importance, not only to the medical profession, but also to the community generally; as an attentive perusal will enable them to judge of the necessity for adopting precautionary measures in their own families, and also in behalf of their poorer neighbours, under the peculiar circumstances to which the observations relate.

The attention of the Overseers and Guardians had been directed to this subject, in consequence of an Order in Council, of October 20, 1831, published in the London Gazette; and immediately upon the fact of the disease having appeared in Sunderland being known to them, effective measures were adopted for ascertaining more correctly, the condition of the persons under their care, as to health, cleanliness, &c.;—for promoting improvement in these respects, and thereby endeavouring

to mitigate the evils, which otherwise, it might be feared, would attend the occurrence of Cholera amongst them. To facilitate the accomplishment of these objects, the Overseers and Guardians of the Poor constituted themselves a BOARD OF HEALTH, denominating it, (lest it might be inferred that they would presume to extend their operations beyond their legitimate sphere of action,) "THE TOWN INFIRMARY BOARD OF HEALTH," that Establishment being attached to the Workhouse, and under the care and control of the Overseers and Guardians of the Poor. Many other respectable Inhabitants united with them in forming committees, and presenting to the Board uniform reports of the state of the districts which they were appointed to inspect; and it may be useful and satisfactory to other parishes to know, that very beneficial effects resulted from this arrangement, and from the labours of the district committees. This system was continued until the appointment, by the PRIVY COUNCIL, of a Board of Health for Birmingham and the adjacent Hamlets, in deference to whose wishes and proceeding the operations of the Town Infirmary Board of Health have since been discontinued.

The poorer classes being the peculiar victims of Cholera, it was deemed of the utmost importance that the Medical Establishment, attached to the Workhouse, should be in the most efficient state; one of the surgeons was therefore dispatched on a mission to Sunderland, in order that he might possess, and be able to communicate

that authentic and particular information respecting the disease and the treatment thereof, which autoptical evidence alone would enable him to do. At the same time it was confidently hoped, that such a manifestation of anxiety to promote the welfare of the poor, would insure from them implicit obedience to the directions of the Surgeons, and induce them in case of need, unhesitatingly to fly for succour to Asylums provided for Cholera Patients, where alone the full benefit of medical skill can be realised. The attention which the Poor have hitherto paid to the suggestions of the Overseers and Guardians upon the occasion, affords great reason to expect that these hopes will not be disappointed.

Upon application to the Central Board of Health in London, they very kindly and promptly furnished a letter of introduction for Mr. Parsons, to Dr. Daun, the professional gentleman who had been dispatched by His Majesty's Government to Sunderland. The assiduity, intelligence and professional zeal of Mr. Parsons, are conspicuously evinced in his report; and although the publication of numerous cases mentioned therein may, by some, be considered calculated, unnecessarily to create alarm, it must not be forgotten that many persons yet treat, or affect to treat, this important subject with a degree of levity or indifference, which has a much more injurious tendency. Attempts at concealment of truth, generally end in creating distrust, and exhibit the folly of judging too meanly of the penetra-



tion of our cotemporaries. It may be affirmed, with confidence, that any alarm or gloom created by the contemplation of a description of Cholera in its malignant form, must be speedily dispelled, and succeeded by heartfelt thankfulness, upon the reflection that immunity therefrom may almost be insured by temperance, cleanliness, and that serenity of mind which is so much promoted by the gratification arising from attention to the poor at so important a crisis. Mr. Parsons's report is therefore laid before the public,—as the representatives of whom the Overseers and Guardians have acted. It will not fail to be observed that persons of dissolute habits, especially those addicted to the use of ardent spirits—those who are filthy in their persons, their clothes and their dwellings; in short, those whose general course of life, it may be feared, would deprive them of that blessing of divine Providence, without which, sanitary precautions and medical skill must be unavailing, are peculiarly liable to the disease. It is therefore devoutly to be wished that in the general endeavour to escape its ravages, the comforts of the deserving will be increased, and the moral improvement of all classes so advanced, that the Cholera may here find but a scanty supply of its favorite victims—the idle, the filthy, and the dissolute.

By direction of the Committee of the

Town Infirmary Board of Health,

H. KNIGHT, CHAIRMAN.

# REPORT,

&c. &c.

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TO THE COMMITTEE OF THE TOWN INFIRMARY  
BOARD OF HEALTH.

GENTLEMEN,

I beg permission to transmit to you the following Report as the Result of the Observations made by me, during my visit to Sunderland and Newcastle.

The public announcement, at the beginning of last November, that a disease had made its appearance at Sunderland, resembling in its symptoms, rapid course, and fatal termination, that which had spread over Asia and a great part of Europe, naturally excited a strong feeling of alarm throughout the Country;—but much of this alarm, much superfluous and exaggerated apprehension will, I am certain, be removed by means of the visits to Sunderland and Newcastle made by numerous medical men, from different parts of the Empire, who have thus become acquainted with the new and dangerous disease with which the whole Country, may and probably will, be afflicted. It is highly desirable to compress, within the narrowest limits, the vague and undefined dread



caused by the near approach of a pestilence hitherto unknown here ; and this will be best accomplished by making known, as far as can be done, the nature and real extent of the danger with which we are threatened. I trust that the following observations may tend in some degree to diminish the fear which has invested the subject of Cholera, by pointing out some of the circumstances which appear to have favoured or obstructed its progress in Sunderland.

Before directing attention to the more immediate subject of this Communication, I wish to make a few remarks on the state of the town of Sunderland generally, confining however my observations to the things of most importance as regards the health of the inhabitants, and particularly of the poorer classes. On taking into consideration the different condition of the inhabitants in two of the parishes of that town, and also the different extent to which Cholera has spread in those parishes, we may justly infer that the comparative exemption of one of them from the disease should be, in a great degree, attributed to the inhabitants there being much less densely congregated together,—to the smaller amount of its pauper population,—and to the greater cleanliness of the streets, houses, and persons of the poor there, than in the parish of Sunderland.

The town of Sunderland consists of three parishes ; viz. Monk Wearmouth, with a population of about 6,000,—Bishop Wearmouth, with 14,000,—and Sunderland with 20,000 inhabitants. In Bishop Wearmouth nearly all the wealthy inhabitants of the town reside, and the number of its pauper population is very small; the streets are generally

sufficiently wide and clean, and their elevation above the level of the River is from 110 to 120 feet. In Sunderland, which is a continuation of Bishop Wearmouth, there are very few streets of proper width, and their general elevation above the level of the River is from 70 to 90 feet lower than in the adjoining parish. The bye-streets are extremely narrow, several not being broad enough for the passage of a common cart, and during my residence in the town they were rarely cleansed from the dirt, and other impurities allowed to accumulate in them, for many days together. The houses in these bye-streets or lanes commonly had no yards or courts attached to them; the rooms were dark, ill-ventilated and dirty; the passages and stairs were dirty through the great number of persons living in each house; and very often each room, from the cellars to the attics, was occupied by a whole family:—Dr. Barry found 120 individuals living in one of these houses. In the parts bordering on the River, Monk Wearmouth closely resembles Sunderland in the crowded state of its poor inhabitants. For several years past it has been the custom in Sunderland for the parish managers to contract with some individual for the maintenance, &c. of the whole poor of the parish. When this plan was first adopted, now about seven years since, the annual expence for this purpose amounted to upwards of £9000, the number of persons contributing to the poor-rates being at that time, as it is at present, rather more than five hundred, and consisting almost entirely of the shop-keepers and others necessarily resident in the place; but, by means of the farming system, the annual expence has been gradu-

ally reduced to its amount in the present year, of between three and four thousand pounds, with, it is believed, a considerably increased number of claimants on the parochial funds. A necessary consequence of this cruel economy, was the state of great destitution in which the poor existed at the time of the appearance of Cholera amongst them; and, although much was done towards improving their condition, by giving them clothes, bedding, fuel, &c. still it was found that individual exertions were manifestly unequal to counteract the ill effects, on the public health, of extreme and widely diffused poverty, and its too frequent consequences, a neglect of cleanliness, drunkenness from the immoderate use of ardent spirits, and the gratification of other depraved propensities. The death, by Cholera, of Mr. Middlebrook, the late contractor for the poor, has released the parish from its engagement to him, and the system of farming the paupers is now, though late, abolished.

My object in thus cursorily noticing the condition of the poor is, in part, to shew that such a state of abject poverty would be likely to render them the ready victims of far less dangerous diseases than the one with which the town has been afflicted; and that such has been the case, and even very recently, is shewn by the following extracts from the register of burials in the parish of Sunderland. During the months of December, 1830, and January, February and March of 1831, Scarlet Fever was epidemic in the place; it chiefly attacked young children, of whom nearly the whole so attacked perished, as appears sufficiently clearly in the annexed table.

Burials in the Parish of Sunderland (Population  
about 20,000).

1828.

October,	November,
33.	27.

1829.

October,	November,
34.	29.

1830.

October,	November,	December,
48.	39.	76, of which there were under ten years of age 41.

1831.

January	97, of which number, there were } under ten years,	47.
February	57, _____	39.
March	48, _____	29.
April	43, _____	18.
May	45, _____	20.
June	26, _____	13.
July	45, _____	23.
August	45, _____	19.
September	44, _____	21.
October	46, _____	15.
November	122, _____	21.
December, 11th (inclusive) }	62, _____	14.

There was also a very great mortality in Sunderland in 1785 and 1786, as is shewn by the following extract from the Register of Burials for that time :—

1785	in October	60	burials
—	November	101	ditto
—	December	119	ditto
1786	January	97	ditto

The following information relative to the first appearance of what by many was considered to be the Asiatic Cholera, in Sunderland and its neighbourhood, was communicated to me by Dr. Ogden, one of the Inspectors appointed by the Board of Health of Sunderland, to examine and verify the cases of disease given in the daily official reports. Some of the remarks, it will be observed, refer to periods of between two and three months before the illness of the elder Sproat, and nothing is stated in them respecting the importation of the disease either from Hamburg, the Ports on the Baltic Sea, or from Archangel; it may however, now be observed that the enquiries made on this subject by myself failed in producing a clear and satisfactory chain of evidence, relative to the source whence the Sproat family received the infection.

Early in the morning of August the 8th, 1831, a man named Arnott, 40 years of age, was attacked by a disease closely resembling Cholera, and he died at the end of twelve hours. He was a quarryman, in decent circumstances, and resided at Pallion, on the River Wear, about two miles from Sunderland. Two days afterwards a potter named Allison, living at Southwick, on the north side of the River, suffered severely from a disease similar to that which destroyed Arnott, with whom he was not connected; Allison recovered. On the 14th of August, Robert Henry, of Fisher's Row, Sunderland, died after an illness of thirty hours,



his symptoms during the illness resembling those of Cholera. Henry had been a Pilot, but on account of his notoriously dissipated and drunken habits, he had not been employed as such for nearly ten years.

Another case, similar to the former ones in its character, occurred in Bishop Wearmouth early in October; this did not terminate fatally; and from this time no other case was noticed as being in any degree suspicious, until the 26th of October, when the first death from acknowledged Cholera took place. This was the case of the elder Sproat, who was a keelman, about 60 years of age, and resided in Long Bank, in the way to the Pier: he had had slight diarrœha several days before his death. During his illness this man was seen by Mr. Kell, a regimental Surgeon, then at Sunderland, who at once pronounced the case to be one of Indian Cholera, which disease he had seen in the Mauritius. On the 27th the son and grand-daughter of Sproat, being then ill with Cholera, were removed to the Infirmary in Bishop Wearmouth; they both appeared convalescent on the following day, and the girl recovered; but on Monday, the 31st, the son had a relapse, and died after a few hours illness. On the same day, the 31st, two other men died of Cholera; they resided in different parts of the town, were unknown to each other, and were supposed to be personally unacquainted with the Sproat family. One of these two men was a keelman named Wilson, he was 45 years of age, and resided in the third story of a house in the High-street, Sunderland; he died after 14 hours illness. The other person was a shoemaker named Rottenby or Rottenburg, he lived in a low and confined house on the Monk Wear-



mouth shore ; during his illness he was not seen by any medical man, but was attended by a charlatan. That this was a case of Cholera was inferred from the account given by the other inhabitants of the house.

On the first of November, a nurse at the Infirmary in Bishop Wearmouth, who had assisted in removing the dead body of the younger Sproat from the ward of the Hospital, but who had not attended him during his illness, was attacked by the disease and died at the end of six hours. Subsequently to her having assisted in carrying the dead body, she was seized with extreme alarm respecting Cholera, and the danger of her being infected by the body.

Some account of these cases of the Sproats, and a statement from some of the medical men that a new and dangerous disease, resembling the Cholera of the Continent, had made its appearance at Sunderland, were forwarded to the Privy Council, who directed Dr. Daun to proceed to Sunderland for the purpose of examining the malady. No other cases of Cholera were reported from the 1st to the 6th of the month ; but on the 6th, 7th, and 8th, cases of the disease again appeared in different parts of the town. On the 6th, a Mrs. Wilson, living in Nile-street, an old and intemperate female, was attacked by the disease and died after 16 hours illness. On the same day a pilot named Ellemore, living in Silver-street, died of Cholera after 21 hours illness ; and on these three days other cases were observed in Warren-street, Silver-street, Burleigh-street, Golden-alley, Robinson's-lane, Harris-lane, Fitter's-row, and Low-street ; and to these, and the adjoining streets, Mill-street, Sai-

lor's-alley, Baine's-lane, &c. the disease, in Sunderland parish, was in a great degree confined.

During the succeeding fortnight, the number of fatal cases in Bishop Wearmouth, according to information which I received from two of the Inspectors, Dr. Ogden and Mr. Torbock, and from the House Surgeon of the Infirmary, did not exceed ten or eleven; and during the last part of November, cases of the disease there, were very rarely met with. At the beginning of December, it again made its appearance in that parish, but on the 12th of the month, the number of deaths from Cholera was under twenty in that parish, which contains at least one third of the whole population, but only a small portion of the pauper inhabitants of the town. The same Inspectors informed me that, up to the 12th of December, there had not been more than 15 deaths from Cholera in Monk Wearmouth with a population of about 6000 persons. At the same date, the 12th, according to the official reports of the Board of Health, there had been since the 26th of October, 152 deaths from Cholera in the whole of Sunderland, and of these at least three-fourths had occurred in the parish of Sunderland, which contains only one half of the whole population.

In a former part of this communication, I have given an account of the burials in this parish for certain months in different years, and to that statement may now be added the following, as illustrating the preceding remarks relative to the greater extension and mortality of Cholera in that parish (Sunderland) which contains nearly the whole pauper population of the town.

Burials in the parish of Sunderland, from the 26th of October, to the 14th of December, both days inclusive, in the years

1829.	1830.	1831.	
48.	81.	203,	of these, 119 were deaths from Cholera.

To conclude these general observations respecting the class of persons who have appeared to be the especial objects of attack by this disease, it may with confidence be stated as the result of the evidence afforded, not only by this Country, but also by all Countries which Cholera has visited, that its ravages have been almost exclusively confined to persons whose minds were greatly depressed by vague and undefined fears and exaggerated apprehensions;—to the infirm, the broken-down in health from intemperance and debauchery;—to the ill-fed, ill-lodged, and ill-clothed;—to the negligent of personal and domestic cleanliness;—and to those living in dirty, confined, ill-ventilated and crowded situations. Whenever, indeed, Cholera has appeared in a town or district, intoxication and debauchery, and depraved and vicious habits of all kinds have been found the most certain means of provoking its attack; whilst, on the contrary, regular habits, nourishing but temperate diet, the avoidance of cold and excessive fatigue, especially in the night, cleanliness and tranquillity of mind, have been observed to give the greatest chance of escape to those most exposed to the disease; and, when accompanied by residence in open and clean situations, to afford almost total exemption from its visitation in its most malignant form.

Before noticing the particular cases of Cholera, which I had an opportunity of witnessing during my residence at Sunderland, it will perhaps not be considered as irrelevant, if I make a few remarks on the Hospitals established at Sunderland and Newcastle for the reception of cases of this disease. As, however, I am desirous of not extending this report to an unnecessary length, I shall compress what I have to communicate on this subject into very few words. *The successful treatment of Cholera in the houses of the poor themselves must be considered as almost a hopeless undertaking :* in a disease like this, where the loss of a few hours, or even of one hour, in the application of the necessary remedies, may place *such patients* beyond the resources of medicine, their safety will imperatively require that prompt and unceasing attention, *which can be found only in places expressly arranged for, and devoted to such purposes.* At Sunderland, no part of the poor rates was available for this or any similar object ; but a portion of the subscription raised for the distribution of food, clothes, &c. to the destitute, was assigned for the support of a Hospital, which was fitted up under the superintendence of the Government Commissioners. A large and detached building, in Coxon's Fields, a little to the south of, but close to the town, was the place selected. It consisted of two large rooms, of which the upper one was alone used for the reception of the sick ; this was divided into separate wards, by means of canvas partitions, and each ward was heated by one or more stoves, &c. It was supplied with bedding from the Barracks. In addition to an insufficient supply of funds, it had in its organization the

great defect, as a Hospital for Cholera, of having *no resident medical officer*, a defect which alone must have rendered it nearly useless as a place for the treatment of a disease, so distinguished, as Cholera is, by the fearful rapidity with which it advances to a fatal termination, unless checked by the most prompt and assiduous attendance. The utility of the place was still more circumscribed by the strong prejudices raised against it, in the minds of the poor, by the post mortem examination of some of the early cases admitted.

At Newcastle upon Tyne, four Hospitals have been established, each provided with the necessary nurses and attendants, and with a salaried medical officer to reside in the place. Other medical men were also attached to each Hospital, who were to attend, in rotation, to the cases admitted; and certain hours were to be appointed, at which practitioners, whether resident in the town or strangers, were to be admitted for the purpose of witnessing the disease and the treatment, with the least degree of inconvenience to the patients; an account of each case was to be entered into a book, to be open to the inspection of such visitors. The expence of these establishments was to be defrayed from the poor rates, the corporation fund, and voluntary subscriptions.

As the identity of the disease at Sunderland and Newcastle, with the Continental or Asiatic Cholera, is now almost universally acknowledged, it would be an act of supererogation in me, to enter into minute details of its symptoms, I shall, therefore, before detailing the cases which I had the opportunity of witnessing, merely give a short and general outline of the most striking characters of the disease,—Oc-



casionaly the symptoms which constitute such remarkable features in Cholera, namely, the failure of the pulse, the coldness and livid appearance of the surface of the body, &c. are preceded by others, which, however, excepting when Cholera exists in the place or its neighbourhood, would be scarcely deserving of especial notice, as they are often met with at the commencement of other diseases. These preliminary symptoms, when the approach of Cholera is gradual and insidious, are a feeling of general languor and lassitude, sometimes head-ache and ringing in the ears, disordered action and looseness of the bowels, a sensation of uneasiness and distress about the pit of the stomach, nausea and loss of appetite. In some cases, and generally where the disease assumes its most malignant form, these warnings of the approaching danger are of short duration, or are scarcely noticed; and in this, the more rapid form or type of the malady, the patient speedily exhibits the striking and characteristic features of Cholera; these are, generally, great oppression about the chest, and a burning sensation at the epigastrium, urgent thirst, spasms in the extremities and in the muscles of the belly, and severe and exhausting vomiting and purging of a fluid resembling rice-water or thin gruel; the patient moans and is in a state of great restlessness; the skin assumes a cadaverous or pale livid hue, and is often covered with a cold and clammy perspiration;—the extremities are cold;—the fingers and toes of a bluish colour and appearing as if they had been soddened in water, and the nails as though stained with indigo;—the lips are blue, the eyes deeply sunk in their orbits and surrounded with a dark ring, the eye-lids half-closed, and the pupils



turned upwards and outwards;—the countenance is sunk, appearing as though much emaciated, and indicating extreme distress;—the tongue is cold, the voice feeble, and the secretions of bile, urine, &c. appear to be completely suppressed. The pulse, from the first quick and feeble, soon becomes fluttering and thread-like, and at length is lost at the wrist, and even in the larger superficial arteries;—at this period the vomiting, purging and cramps generally cease, the whole body is still and motionless, even the chest scarcely moving in unison with respiration, and yet the intellect remains comparatively unimpaired. In these cases, some patients die in the space of a few hours, so rapid and severe is the course of this disease;—others survive twelve or twenty-four hours, or even for a longer period in this state of extreme collapse and prostration, often without complaining or murmuring, and apparently hopeless; consciousness sometimes continuing even to the moment of dissolution.

Those who recover from the first, or cold state, are generally found, soon after the skin has become warm, the pulse returned and re-action is established, to pass into a state of fever resembling typhus; the pulse being rapid and feeble, the tongue brown and dry, great thirst, the countenance flushed and the conjunctiva suffused with blood. Many who have passed in safety through the first stage of the disease, that of collapse, gradually sink into a state of coma and die under the effects of this consecutive fever.

In cases where the patient dies in the cold stage of Cholera, and before reaction has commenced, the examination of the body has hitherto afforded but little information respecting the nature of the disease, beyond what is inferred

from some of the symptoms during life, the most striking and important of which appear to be, the failure of the pulse and almost complete stasis of the circulation, a diminished power of evolving animal heat in the body, and a suspension of all the ordinary secretions, as of the bile, urine, tears, salivary fluid, &c. It must indeed be allowed that, at present, very little is known with respect to the organs or system, on whose derangement this terrible disease essentially depends; equally ignorant are we of the remote cause of Cholera, and its laws of propagation; and I shall, therefore, only very briefly notice the question of its contagious or non-contagious nature. It was frequently observed, both at Sunderland and elsewhere, that two, three, or more persons, associated together by relationship or otherwise, have, in consequence of such connection with each other, been successively exposed to repeated, and even long continued contact with some one affected with the disease, and likewise been themselves successively attacked by it. As illustrating this statement, I may refer to the cases of Mrs. Wardell and S. Nanson, of William Bell and his wife, of the girl Rauntree, Mrs. Fairley, the pilots, Knell and Elliot, and their relatives. Two other cases, indeed, might have been mentioned as being closely connected with those of the Elliots, to which I have just adverted;—they are the following:—On the 8th of November, a man named Stafford, living in Denning-street, Bishop Wearmouth, was attacked with Cholera and died after a few hours illness; he was an uncle of the child Alice Stafford, who died of Cholera on the 10th of December.—The other case adverted to, occurred subsequently to that of the girl Stafford;—it

was this :—a young man named Todd, 30 years of age, and married, living in Warren-street, in a room on the same floor with, and adjoining that occupied by the Elliot family, was taken ill with Cholera at two o'clock on Monday morning December the 12th, and died, in the stage of collapse, at six o'clock in the evening. Between nine and ten o'clock he was bled to the extent of about eight ounces; and attempts were made to excite the oppressed vital powers, by the application of dry heat, friction, sinapisms, brandy and other stimulants. The pulse before the bleeding was feeble, it subsequently disappeared at the wrist, but returned for a short time and very feebly about two hours before death.

To these instances may also be added, as illustrating, in a greater or less degree, the opinion that Cholera is contagious, the cases of Susan Roach and her husband, the two Cowans, Mrs. Carr, her sister and their children; and likewise the annexed ones, which I have not given in a more detailed form, in order to avoid extending these pages to an unnecessary length. Louisa Woodhall, aged 42 years, and living in Cross-place, Covent Garden-lane, was taken ill with Cholera on Saturday, November 26, and died after twelve hours illness. Her husband, George Woodhall, 40 years of age, was taken ill with the same disease on Tuesday, November 29, soon after the burial of his wife, to whom he had been much attached; he died on the following day, after twelve hours illness. John Robson, 15 years of age, living at Ayres quay, on the river Wear, and about one mile from Sunderland, was taken ill with Cholera at six o'clock in the morning of December the 7th, and died at three o'clock in the afternoon of the same day. During his illness, which

began while he was at work, he had very little pain, cramps, vomiting, or purging; and very soon after he was attacked with this disease, his pulse left the wrist, and the surface of his body became cold, and continued so throughout. James Robson, aged 7 years, the brother of John Robson, was taken ill at four o'clock in the morning of the 8th of December, and died at one o'clock, P. M. of the same day; he had much vomiting and purging, and slight cramps: the surface of the body was cold, and in parts of a livid blue colour, and the pulse was almost imperceptible during the short period of his illness. Catherine Robson, aged 11 years, the sister of the two boys, was attacked with Cholera at eight o'clock in the morning of December 8, during the whole of which day she had very little vomiting, purging, or pain, and no cramps, her extremities were cold and blue, and the pulse very feeble. She recovered. The treatment in these three cases consisted in the application of dry heat to the body, and the administration of brandy and some other diffusible stimulants; the girl, however, was bled, four or five ounces of blood being taken from her about one hour after the commencement of her illness. Elizabeth Biddlestone, aged 23 years, living in Hedworth-street, Monk Wearmouth, was taken ill with Cholera, at eleven o'clock in the morning of December the 10th, and died at half past one o'clock, P. M. of the 11th, remaining during the whole of her illness in the cold stage of the disease, no pulse, and no reaction whatever being observed. She had been previously in good health, but had been very assiduous in attending upon her brother, 6 years of age, who was attacked with Cholera on Thursday, December the 8th: he recovered.

Although, however, these and similar cases may justly be considered, as serving to prove that Cholera, under certain circumstances, is contagious, still the general immunity with which medical men and others have made frequent and long continued visits to the sick, and been repeatedly in personal contact with them, sufficiently shews that the power of contagion of this disease is extremely limited, and requires for its effectual operation a susceptibility arising from some of those predisposing causes already noticed, and which are pointed out, by general experience, as the most common and the most powerful. Numerous case have undoubtedly been observed, and similar ones will of course still be hereafter met with, for the satisfactory explanation of the occurrence of which, contagion, merely, appears certainly to be quite insufficient; but whether this arises from our inability to trace all the connecting links between such cases and preceding ones, which must frequently happen, or from their origin being attributable to some other remote cause of Cholera, either existing in the atmosphere or emanating from the earth, will probably for ever remain undecided.

That much yet remains to be discovered, respecting both the nature and the treatment of Cholera, is shewn by the very great mortality which has formed so distinguished a characteristic of this disease, during the whole of its progress, hitherto, through Asia and Europe; and in this Country it has lost but little, if any, of the malignity and danger which it has exhibited elsewhere. From the 26th of October last, to the end of the year 1831, comprising a period of less than ten weeks, there have been announced



in the official reports 1270 cases, and 440 deaths;\* more than a third of the whole number attacked having died. Of the 36 cases, given in the table at the end, and which are either briefly noticed, or somewhat fully detailed in these pages, it will be seen that 27 had a fatal termination and 9 only recovered. The circumstance of so large a proportion of fatal cases having fallen under my notice, may, I think, be explained in this manner:—many, indeed most, of the resident practitioners of Sunderland, in or near to which town all these cases occurred, were evidently desirous of affording myself and other strangers, the best opportunities of seeing Cholera in its worst and most dreaded form. By so doing they enabled us, in the shortest time, to become acquainted with the powers of this new pestilence, and to estimate the value of the plans of treatment adopted; and I gladly take this opportunity of publicly acknowledging the courtesy and liberality displayed, on this occasion, both by the Government Commissioners and by the Physicians and Surgeons of Sunderland and Newcastle. To return, however, from this digression. Of the 27 fatal cases, 22 died in the stage of collapse, and before reaction had begun; and 5 in the consecutive fever; or perhaps it would be more correct to say, that 4 only died in the stage of fever; for in the case of the fifth, I refer to Jane Todd, who died on December the 7th, the reaction was very imperfect and did not terminate in fever. The following table will shew the duration of the disease in the fatal cases.

\* The actual number both of cases and deaths somewhat exceeds what is stated above.



Of the 22 who died in the cold stage of Cholera,

1	died after	7	hours illness,
3	ditto	9	ditto,
1	ditto	10	ditto,
1	ditto	12	ditto,
2	ditto	13	ditto,
2	ditto	16	ditto,
1	ditto	17	ditto,
1	ditto	18	ditto,
1	ditto	22	ditto,
5	ditto	24	ditto,
1	ditto	25	ditto,
1	ditto	26½	ditto,
1	ditto	30	ditto,
1	ditto	3 days illness (Susan Clark.)	

Of the 5 other fatal cases,

1	died after	66	hours illness,
1	ditto	3	days
1	ditto	4½	ditto,
1	ditto	6	ditto,
1	ditto	7	ditto.

The only circumstance which appears to be deserving of particular attention, in noticing the cases of recovery, is that, of the 36 cases given in the table at the end, 14 were bled, and of these 6 recovered; and the beneficial effects of early bleeding in Cholera, as shewn in the annexed tabular statement, would, *pro tanto*, appear to support the favourable opinion entertained of it as a remedy in this

disease, by many of the Indian practitioners. Taken *per se*, the small number of cases here given, would evidently be insufficient to justify a general conclusion, as to the advantages or disadvantages of blood-letting.

Name.	{ Hours after the disease began, when bled. }		Result.
Mrs. Wardell	$\frac{1}{2}$	hour	cured.
Catherine Robson	1	ditto	cured.
Mrs. Fairley	1	ditto	died.
Mrs. Carr	1	ditto	cured.
William Bell	2	hours	died.
Lawson	2	ditto	cured.
Susan Clark	3	ditto	died, (a relapse.)
Mrs. Robson	7	ditto	died.
Todd	$7\frac{1}{2}$	ditto	died.
E. Brown	8 or 9	ditto	died.
Mary Freeman	9	ditto	died.
Susan Nanson	10	ditto	cured.
M. Rauntree	12	ditto	died.
Susan Roach	13	ditto	cured.

Bleeding, though resorted to at a very early period in the case of nurse Fairley, was certainly productive of no advantage to her. The Rev. Mr. Scott was also bled largely, indeed three times in the course of his illness; he died at the end of 24 hours.—Miss G. the matron of the Poor House was not bled, but she took five grain doses of calomel every two hours, and strong diffusible stimulants; heat was continually applied to the surface of the body, and she was rubbed with stimulating liniments. In her case a slight

and transitory reaction took place, but she died at the end of about thirty hours. Spirit of turpentine was administered freely by some of the medical men at Sunderland; it was given both by the mouth and in enemata; and, in some cases, apparently with advantage, in others without any benefit. Oxygen gas was inhaled, and, at the suggestion of Mr. Hunter, of Edinburgh, it was injected into the rectum. Before my departure from Sunderland, this remedy had been tried in six cases, all of which terminated fatally. In every instance, however, where the gas was used, its administration was followed, by the most evident excitement; but, unfortunately, this effect was merely temporary, and it subsided almost as rapidly as it was produced. I am acquainted with only one case where the excitement was permanent, and that person, the pilot Elliot, died in the consecutive fever; but, under more favourable circumstances, I think that this man's life would have been saved. Indeed, in estimating the efficacy or inefficacy of the remedies used, we should bear in our recollection the peculiar disadvantages under which the medical attendant labours, who has to treat a disease, like Cholera, in the habitations of the poor.

During my short residence at Sunderland and Newcastle, I was rather a spectator of what was being done by others, than an agent myself in the treatment of the cases which I saw; and I have, in consequence, confined my remarks on this part of the subject, to this general statement of the remedial measures employed, and their results. It is, however, very evident that, at present, the best directed efforts of medicine have failed, in a very large proportion of those cases

where the disease assumed the rapid and malignant type which has too frequently marked its course. All must, however, hope that the mass of intellect which has now, for some years, been engaged in the investigation of the nature of Cholera, will, and at no distant period, succeed in disarming this plague of the nineteenth century, of much of its terrors.

GEORGE PARSONS.

12, Newhall-street,  
Birmingham.

## CASES.

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November 28th, 1831.

MARY WARDELL, a poor widow, aged 50 years, living in Baine's-lane, in a single room on the ground floor. A little before noon of this day, she washed and laid out the body of a young girl in a house on the opposite side of the lane, who died during the morning, of Cholera, after 12 hours illness. At four o'clock, P.M. Wardell was attacked with vomiting and purging, pain in the head, coldness of the whole surface of the body, and cramps in the legs, arms, and subsequently in the belly. Half an hour after the commencement of her illness, she was seen by Mr. Mordey, who took from her arm eight ounces of blood, gave her an emetic, and afterwards a bolus containing six grains of calomel and one of opium; and subsequently a solution of carbonate of ammonia (5 ij. in O ss. of water):—dry heat was ordered to be applied to the body. Eight o'clock, P.M. she is now very restless, has severe cramps in the legs and belly, vomiting of a colourless and glairy fluid, but which she says is slightly bitter; complains of pain at the pit of the stomach; the surface of the body warm and moist, excepting the feet which are cold,—the eyes sunk in their orbits, and the countenance expressive of much anxiety,—the tongue and breath cold,—pulse 90 and feeble. The directions given, were—friction of the whole body with hot flannels, bottles of

hot water to the feet and legs, a sinapism to the epigastrium; the calomel and opium to be repeated, the ammonia mixture to be taken every hour, and some hot brandy and water occasionally.

November 29th, ten o'clock, A. M. She is much better; the purging still continues, but is not severe, and the dejections contain bile.

November 30th. Is better; no medicine ordered.

December 4th. She complains of some debility, but is otherwise well.

November 28th.

MRS. ROBSON, 53 years of age, the wife of a blacksmith, whose goods she sells in the streets and market-place. She lives in Low-street, which is very narrow and dirty, and near to the river, in a single room on the ground floor, the room itself being below the level of the street. The family is very poor. She has not visited any one ill with Cholera, and no case of the disease has occurred for several weeks in the neighbourhood. Her illness began at two o'clock, A. M. to day, with vomiting, purging, and cramps in one leg and arm. At nine, A. M. she was seen by a surgeon, who with difficulty took about three ounces of blood from her arm; at noon she was visited by Dr. Clanny, who ordered for her, calomel, opium and camphor in substance, to be taken every second hour, hot brandy and water, and the use of hot and dry friction.—Nine o'clock, P. M. She is still suffering from cramp and nausea; the surface of the body is kept warm by friction and the application of dry heat, but becomes cold when these are discontinued; her pulse is very



feeble, her tongue and breath cold, and she complains of much uneasiness and weight about the precordia. The remedial measures already noticed, were to be continued.

November 29. After nine o'clock of last night, the state exhaustion rapidly increased, and she died soon after midnight.

Duration of her illness 22 hours.

#### November 29th.

SUSAN NANSON, aged 19 years, lives in Baine's-lane, near the house of Mrs. Wardell, whom she was engaged in rubbing with flannels last night. The room, in which S. Nanson lives, is several steps below the level of the street, is without a glazed window, and wretchedly furnished. Previously to her present illness the girl's health was good. At two o'clock, A. M. she was attacked with shivering and coldness of the surface, cramps in the left arm and leg, some, but not severe, vomiting and purging, and pain in the head. She was seen by Mr. Mordey, at eight o'clock this morning; there were then, general coldness of the surface, a feeble pulse and cramps; Mr. M. gave her some ardent spirit as a stimulant, and she was afterwards removed to the Cholera Hospital. Twelve o'clock. Pulse 98 and easily compressed, tongue moist, clean and warm, great thirst, cramps in the arms, hurried respiration, great pain and weight at the precordia, nausea but no vomiting, pain in the head and vertigo. She was bled to the extent of eight ounces, which relieved her breathing; had six grains of calomel; and warm blankets were applied to her. Seven o'clock, P. M. is now much better; no cramps, vomiting

or purging: she has been taking a weak nitric acid drink.—

November 30. She is better, but still complains of pain about the pit of the stomach, for which a blister has been applied. At night she was asleep.

December 1. Convalescent.

November 29th.

MARGARET RAUNTREE, married, 21 years of age, living in Union-lane, where many cases of Cholera have appeared; the lane is narrow, dirty and inhabited by very poor people. Four members of this girl's family have had Cholera, and three have died; her sister died of it on Sunday, November 27. Margaret R. has suckled an infant, a few weeks old, up to the period of her own illness, which began at two o'clock this morning, with cramps, vomiting and purging. At two o'clock, P. M. she was seen by Dr. Ogden, who opened a vein in her arm, but could only obtain about a table spoonful of blood from it. She was afterwards sent to the Cholera Hospital.—Half-past five o'clock, P. M. The surface of the whole body is cold and damp, the pulse at the wrist scarcely perceptible, too feeble to be counted; she complains of no pain, but is restless, and speaks only one or two words at a time; the tongue moist and warm, the eyes deeply sunk in their orbits and surrounded with a dark brownish-blue circle, the skin of the face and hands of a pale grayish-blue colour; the skin of the fingers and toes corrugated as though sodden in water. The hot air bath was used; it soon raised the temperature of the skin to the natural degree of warmth, but,

on account of the distress which it occasioned to the patient, it was discontinued at the end of about twenty minutes; the skin, though cold and deprived of its natural elasticity, appeared to be morbidly sensitive to some applications, and amongst others to heat; frictions with warm flannels likewise gave pain. Upon discontinuing the hot air bath, and using only the warm flannels, the skin rapidly became cold again, and the collapse seemed to be accelerated by the stimulus of the hot air, the use of which produced no effect on the pulse. She has now neither vomiting, purging, nor cramps. She was ordered to take six grains of calomel, a strong solution of carbonate of ammonia, and hot brandy and water. Sinapisms had been put to the calves of the legs, and others were now applied to the feet.—Nine o'clock, P. M. The collapse has increased; there is no pulse in the radial or brachial arteries; she is quite quiet.

November 30. She died at two o'clock this morning.

Duration of her illness 24 hours.

#### November 29th.

JAMES WOOD, aged 8 years. His parents are in the greatest poverty, without the common necessities of life; they live in Sailor's-alley, where many other cases of Cholera have occurred, nearly all of which have terminated fatally; but none had happened in the house in which this boy lived. His illness began with cramps at eight o'clock yesterday morning (the 28th), the cramps beginning in the feet and extending up the legs to the thighs; he had also vomiting and purging, but his parents could not tell the colour or appearance of the matters passed. The boy was

not seen by a medical man until late last night, when the cramps were very severe, especially in the hands; his fingers and toes were blue; skin cold, and the eyes surrounded with a dark livid circle. Dr. Hazlewood, who visited him last night, ordered some medicine, &c. which, however, his parents did not, or could not, obtain; and this morning (the 29th) he was brought by his father to the Cholera Hospital.—Eleven o'clock, A. M. The dark circle round the eyes still remains; the tongue is dry, dark sordes on the gums, pulse 136, the surface of the body warm and dry, and the boy, unless roused, sinks into a state of stupor; his respiration is quiet, there is secretion both of bile and urine; and he is now in the second stage of the disease (in the Choleric Fever), his state resembling that of a person ill with bad typhus. He was ordered three grains of calomel, diluted nitric acid drink, his head to be shaved and cold water applied to it, a blister to the nape of the neck, sinapisms to the feet, and, by direction of Dr. Daun, the external jugular vein was opened, from which about two ounces of blood were obtained.—Seven o'clock, P. M. He is still in a state resembling coma, from which, however, he can be roused. His pulse is 100 and feeble. The calomel has been repeated three times, and as his bowels have not been moved since morning, a clyster of castor oil and warm water was ordered.

November 30, ten o'clock, A. M. He has been restless all night, pulse 90 and very feeble, surface of the whole body cold. He was ordered beef tea, a solution of carbonate of ammonia every half hour, and a clyster of warm water containing half an ounce of alcohol. Ten o'clock, P. M. No change has taken place.

December 1. He died at two o'clock this morning.

Duration of his illness 66 hours.

November 30th. Workhouse, eight o'clock, P. M.

RICHARD HOLLAND, aged 9 years, was taken ill at ten o'clock this morning, with vomiting and purging, and, for several hours, the fluids ejected have been like rice-water. He now lies quite quietly, is cold, and without pulse, and his hands and feet are of a bluish colour. He has taken a mixture containing camphor and nitric ether, warm brandy and water, and dry heat has been applied to the body. He had been in good health before his present illness.

December 1st, he died, at three o'clock, this morning.

Duration of his illness 17 hours.

November 30th.

MARY FREEMAN, 20 years of age, lives in Baine's-lane, near to the house of Mrs. Wardell, and is very poor. On Saturday last she was ill with cramps, vomiting and purging; from this attack she recovered, but was again taken ill about two o'clock this morning with cramps at the stomach, vomiting and purging, and pain about the heart. She was taken to the Cholera Hospital at ten o'clock, A. M.—Eleven o'clock, A. M. No vomiting, purging, or cramps; the skin of the body warm and moist, tongue warm and moist, feet cold; she complains of weight and uneasiness about the stomach. Ten ounces of blood were taken from her arm; she took six grains of calomel, had barley water to drink, and warm flannels were applied to the whole body. Before the bleeding, which produced great faintness, her pulse was



116, and rather firm; afterwards it fell to 90, became very soft and feeble, and remained so for several hours. Early in the evening, the depression of the vital powers became very great; the pulse was feeble and almost imperceptible, the extremities cold, the eyes sunk in their orbits, and the fingers and nails blue. Brandy and carbonate of ammonia were given, and the body was rubbed with hot flannels.—Ten o'clock, P. M. No pulse, skin of the trunk cold and damp, extremities cold, tongue cold, respiration quiet, is restless, says she has pain at the stomach, but does not complain, and speaks but little, and only when addressed.

December 1st. The state of the collapse increased after the visit of last night at ten; her lips became blue; and about midnight, another attempt was made, in vain, to bleed her. Oxygen gas was inhaled, and this was followed for a short time by some reaction, her lips losing their purple-blueness, and regaining their natural colour, her voice becoming stronger, and the pulse returning, though feebly, to the wrist; she said, while under the influence of the oxygen, that she was better; she soon, however, relapsed into her former state, and died at three o'clock this morning.

Duration of her illness 25 hours.

November 26th.

ISABELLA COWAN, aged 10 years, living at No. 22, Sailor's-alley, was taken ill during last night with vomiting and purging, having had previously a slight diarrhoea. On the morning of the 26th, her pulse could scarcely be felt, she had no cramps, her tongue, breath and the surface of her body generally were cold, and her fingers and lips blue.

By direction of Dr. Ogden, who attended her, a mustard poultice was applied over the stomach; she took every hour a pill containing two grains of capsicum, one grain of calomel and a quarter of a grain of opium, and warm brandy and water; dry heat was applied to the body, which was also diligently rubbed with hot flannels.—At six o'clock, P.M. the purging of fluids like rice-water still continued, and in the dejections were observed many ascarides; her skin was warm, and the colour and circulation improved.

November 27th, the pulse full, and the heat of the body natural. An enema containing some *Ol. Terebinthinæ*, was given. On the following day, she gradually sunk into a state of fever, attended with delirium and resembling typhus; and from this she was slowly recovering, through the use of cold applications to the head, blisters to the nape of the neck, mild aperients, &c., when a relapse was occasioned by her mother giving to her some bad pastry.

On the 8th of December, she was quite well, excepting some debility.\*

#### December 1st.

JOHN COWAN, aged 3 years, the brother of Isabella, was attacked with Cholera; the treatment was similar to that adopted with his sister, and he recovered, the consecutive fever being less severe than in the case of Isabella Cowan. This family lived in a single room, in perhaps, the dirtiest and most crowded part of Sunderland.

\* The particulars relating to the early period of the case of Isabella Cowan, were communicated to me by Dr. Ogden, who attended these two children.

December 1st.

JANE DAVIDSON, 46 years of age, married, and the mother of six children. Her husband is a keelman, but, from bad health, he has been able to do very little work for several weeks past, and, in consequence, his family has suffered much from poverty. This family of eight persons live in Mill-street, in two rooms on the ground floor, each room being less than three paces wide, and only between five and six paces long;—the front room, where the patient lies, is so dark that a candle is required during the day time to enable me to see and examine her. No case of Cholera has previously happened in this house, but Mrs. Davidson has seen some persons ill with the disease in its malignant form during the last week, many cases having occurred in Mill-street.—Half-past nine o'clock, A. M. J. Davidson was taken ill this morning at five o'clock:—there is now no pulse at the wrist; cramps in the legs very violent, cramps also in the belly, voice a low whisper, coldness of the whole surface of the body, fingers and nails blue, tongue and breath warm, and the respiration somewhat hurried. One ounce of the undiluted liquor ammoniæ was ordered to be given in three doses, with half an hour intervening between each dose; also hot brandy and water occasionally, warm and dry friction of the body with flannel; sinapisms to the feet, and one also to the epigastrium.—Eleven o'clock, A. M. Vomiting and purging at intervals, a feeble pulse can be felt at the wrist; coldness of the surface of the body; she complains of the sinapisms, which, however, have not reddened the skin. Half a drachm of sulphuric ether and the same quantity of lauda-

num were now given; and the brandy and friction directed to be continued.—Four o'clock, P. M. She remains in the same state, but says she has no pain.—Seven o'clock, P. M. The pulse appears to be a little stronger, but it is still so feeble that I cannot count it; breathing still somewhat oppressed, but she speaks more freely; no vomiting, purging, or cramps; surface of the body damp, and becomes cold when the hot applications are discontinued; she does not complain of pain. Five grains of calomel were given; the brandy, &c. to be continued.—She died at eleven o'clock, P. M.

Duration of her illness 18 hours.

#### December 1st. Workhouse.

ELIZABETH SCOTT, 50 years of age, of deranged intellect; she was taken ill yesterday morning, at two o'clock. Eleven o'clock, A. M. she has had during the night some, but not severe, vomiting and purging, the matters ejected said by Mr. Embleton, her medical attendant, to resemble rice water or thin gruel :—the tongue and breath are now cold, there is no pulse at the wrist, the body is cold and dry,—she speaks when addressed. She is taking nitric ether in camphor mixture, and brandy; and dry heat is being applied to the body; but there is a great want of attendance upon the sick, by means of nurses, in this establishment. Six o'clock, P. M., she remains in the same state as in the morning.

December 2nd, eleven o'clock, A. M. no pulse, cold skin, and dry and cold tongue. The treatment the same as that directed yesterday.—Three o'clock, P. M. she remains nearly in the same state, but has a feeble pulse; the reaction at present very trifling.

December 3rd, eleven o'clock, A. M. The skin of the trunk warm and dry, the hands and feet cold, tongue dry and brown, pulse 70, easily compressed; the bowels are relaxed, and the dejections contain bile. She is taking small quantities of sulphate and carbonate of magnesia.

December 4th, eleven o'clock, A. M. Pulse very feeble and slow, skin dry, tongue dry and brown; she speaks occasionally, but, unless addressed, lies in a comatose state. She will take nothing: a blister has been applied to the nape of the neck.

December 5th, during the night she remained nearly in the same condition in which she was yesterday; at times in a state of coma, but occasionally very restless. She died at seven o'clock, P. M.

#### December 2nd. Workhouse.

MARY CAMPBELL, 30 years of age, she was taken ill at noon this day, and is now, three o'clock, P. M., without pulse, with cold arms and legs, blue fingers and lips; has cramps in the legs, and vomiting and purging of fluids without smell and resembling rice water in appearance. The treatment is camphor, nitric ether, and brandy, internally; and dry heat and friction to the body.

December 3rd, eleven o'clock, A. M. She remains in the same state of collapse; and lies quite still. She died at seven o'clock, P. M. Duration of her illness, about 30 hours.

#### December 2nd.

——— DALZIEL, a boy, two years and a half old, living with his aunt, a dress-maker, in Baine's-lane, and nearly



opposite to the house of the next case, W. Bell. The boy has had slight diarrhoea for about a week, but yesterday was playing in the lane.—At seven o'clock yesterday evening, he was attacked with severe vomiting and purging; the surface of the whole body speedily became cold, and he was very restless during the night.—At eleven o'clock this morning, (the 2nd) he was lying, quite motionless, on the lap of his aunt, his skin cold and damp, no pulse, no vomiting or purging; his eyes sunk in their orbits and surrounded with a dark and broad circle, his lips, the parts of his face around the mouth, and the hands of a dirty purplish blue colour, which, his aunt said, was of a deeper hue, a few hours ago; his respiration slow and quiet. The treatment not known, excepting that last night, soon after the commencement of his illness, he was put into a warm bath. Seven o'clock, P. M. he had died a few minutes before my arrival.

Duration of his illness 24 hours.

December 3rd.

WILLIAM BELL, 67 years of age, married, a keelman; lives in Baine's-lane, a few doors from the house of Mrs. Wardell. This man, his wife, daughter, and son-in-law, occupy two rooms in the third story, the lower rooms of the house being occupied as a tavern, or rather common ale-house. Bell's rooms, when compared with others in this street, may be said to be clean and decently, though plainly, furnished; he is said to be sober, and not to have required medical assistance for thirty years. He was taken ill last night, at eight o'clock, with cramps in the legs, vomiting and purging, and coldness of the whole body; no pulse could be felt

at the wrist, when he was visited at ten o'clock, P. M. by Mr. Embleton. Two ounces of blood were with difficulty taken from him, by opening veins in both arms; brandy, opium, and ether were given; frictions with hot flannels used, and also other means of imparting heat to the body, by bottles of hot water, &c.—At eleven o'clock this morning (the 2nd,) I saw him with Mr. Embleton: he had passed a restless night, without amendment. He has now no pulse, the body cold and damp, tongue warm, the skin of his hands and feet corrugated and stained of a bluish colour, his eyes sunk in their orbits, and surrounded with a dark ring, his lips purplish, respiration quiet; he lies without stirring, but is quite sensible, speaking a few words in a plaintive tone, when addressed; the beating of the heart cannot be felt. When asked where he is in pain, he puts his hand on the epigastrium, and complains of a great weight about the stomach and heart. A cloth saturated with boiling water was, by means of a wooden bowl, applied over the epigastrium, it rendered the pulse for a short time slightly perceptible, but was evidently of no service. He died at four o'clock, P. M.

Duration of his illness 24 hours.

#### December 2nd.

MRS. FAIRLEY, 60 years of age, the chief nurse to the Cholera Hospital; has been in good health, but her rest at night has been much disturbed by her attention to the patients in the place; last night she slept well, and this morning was apparently well, speaking cheerfully about the case of S. Nanson, discharged cured to-day. Mrs. Fairly is fat, good tempered, and has exhibited the most perfect absence

of fear respecting the Cholera, during the time she has been with the cases of that disease in the Hospital, giving, in almost every instance, her personal assistance in applying the remedies to the patients, by friction of their bodies, administering clysters, &c. indeed, by her assiduous attention to the patients, she had given great satisfaction to the medical men visiting the Hospital, by several of whom she had been cautioned about exerting herself so much. About eleven o'clock, A. M. she was attacked with purging and some vomiting, the fluids ejected soon exhibiting the characteristic white appearance observed in Cholera; she had pains about the precordia, and general uneasiness; the temperature of the body was natural. By direction of Dr. Ogden, who was in the hospital at the time, she took some pills, containing calomel, capsicum, and opium.—Twelve o'clock. Vomiting and purging continue, countenance indicating great depression, voice sinking, pulse scarcely perceptible, severe spasms of the muscles of the legs and thighs, skin cold and damp. She was bled to about twenty ounces, and after the bleeding the pulse almost completely disappeared at the wrist; a large enema, with two drachms of laudanum was given; a sinapism to the stomach; friction with hot flannels to the limbs and body; and brandy.—One o'clock, P. M. All the symptoms increasing in severity, voice plaintive and almost whispering, pulse quite gone, eyes sunk in their orbits, and surrounded by a dark ring, skin cold to the touch, great thirst. She took thirty drops of cajeput oil, and the other remedies, brandy, frictions, &c. continued.—Two o'clock, P. M. Cold perspiration all over the surface of the body, she moans, is restless, and complains of severe pain at

the precordia. A quart warm enema was administered; thirty drops of cajeput oil given. The disease is evidently advancing unchecked in its course, and the patient herself appears to be quite hopeless of receiving relief.—Three o'clock, P. M. The pulse is now slightly perceptible. She is taking a strong solution of carbonate of ammonia, every half hour.—Six o'clock, P. M. Skin cold and clammy, pulse very indistinct, breath cold but not hurried, not much thirst, no vomiting, purging, or cramps, since the bleeding; complains of great pain and oppression at the stomach. She has taken regularly the ammonia mixture, &c.; and has now ten grains of calomel given to her.—Seven o'clock, P. M. Asleep; she woke soon afterwards in a state of great suffering, was restless, had scarcely any pulse, at times much convulsed; is sensible though she does not speak; deep blueness of the hands and feet, and the skin there, as though sodden in water. She died about a quarter after eight.

Duration of her illness, rather more than nine hours.

Drs. Daun, Gibson, Hazlewood, &c. and Mr. Mordey, were with her very frequently, and for a long time together; and the most unremitting attention was paid to the directions which they gave. Some of the blood drawn from her arm, was examined by Prof. Majendie, who saw the case; it contained no uncombined acid, but some free alkali.

#### December 4th. Workhouse.

——— LAWSON, a girl, 4 years of age, was taken ill this morning, at eight o'clock, with vomiting and purging. The child has been in good health, was slightly indisposed yesterday evening, but slept well during the night. When

first taken ill, she was in a room where there are other children all in good health.—Eleven o'clock, A. M. The vomiting and purging still continue, the fluids ejected resembling rice-water, the stools having a very faint odour of fæces; the skin of the body is warm, the pulse very easily compressed, the eyes sunk, but no collapse of the face. She has been bled in the hand by Mr. Gregory, who took from her about a table spoonful of blood; he also gave an emetic of sulphate of zinc combined with a small quantity of calomel. Hot flannels are being applied to the body; and the child is to be removed to the ward appropriated to Cholera patients.—Two o'clock, P. M. Hands, arms and legs cold; pulse very feeble, not to be counted, but it is not very quick; respiration easy; she is very quiet; the eyes dry and glazed on the surface. She has vomited freely every time the sulphate of zinc has been given. One lumbricus was in the fluids vomited, and another in the dejections, which retain their white and inodorous character. No other medicine ordered.

December 5th, she has been bled with leeches on the head, and is better to-day, the body being warmer and the pulse more distinct. She is taking small doses of rhubarb and magnesia.

December 6th, three o'clock, P. M. Skin warm and dry, tongue dry, sordes on the gums, is very restless, but sinks at times into a state like that of coma. A blister has been applied to the chest.—Eight o'clock, P. M. Remains in the same state. The bowels are open, and the dejections contain bile.



December 7th, the child is better, but did not sleep much during the night. The medicine during the last two days has been the rhubarb and magnesia, and a saline mixture. Cold cloths have been applied to the head.

December 8th, is convalescent.

December 10th, appears to be quite well.

#### December 5th. Workhouse.

JANE TODD, 54 years of age. A few weeks since she walked from Sunderland to London and back again. She was taken ill last night, at eight o'clock, with vomiting, purging and cramps; having been in good health previously.—Eleven o'clock, A. M. There is now no pulse at the wrist, or in the brachial arteries; skin of the hands, and the surface of the body generally cold; tongue cold; eyes deeply sunk in their orbits, and surrounded with a dark ring; her features are much sharpened, and the countenance indicates much depression; she breathes easily, speaks in a good voice, lies very quiet, and appears unwilling to have any thing done, or to be disturbed. The fluids from the stomach and bowels are similar to those passed by the other patients. Neither vomiting, purging nor cramps now. Hot flannels are applied to the body, and brandy and ether given.—Two o'clock, P. M. No pulse, and generally she is in the same state. Has slept a little; is indifferent to what is passing around her, but is quite sensible; speaks only when addressed; complains of no pain. The same treatment.

December 6th, eleven o'clock, A. M. is better to-day; slept a little during the night; pulse can be felt, but it is

too feeble to be counted; the surface of the body is warmer, and she says that she has no pain.—Eight o'clock, P. M. Has been easy all day; skin moderately warm, the pulse too feeble to be counted; no vomiting, purging or cramps since yesterday; the sinking of the eyes in their orbits, and the expression of the countenance remain unchanged; still is indifferent about what is done for her; the reaction is yet very imperfect. She will take nothing but a little tea.

December 7th, she remained in a tranquil state during the night; asked for, and took some more tea. Died at seven o'clock this morning, being quite sensible to the last.

#### December 5th. Workhouse.

ELIZABETH BROWN, 74 years of age; during the last night she was taken ill with Cholera.—Eleven o'clock, A. M. She has now cramps in the legs, vomiting and purging of fluids like rice water, a feeble pulse, beating 70, surface of the body, tongue and breath cold, respiration easy. Eight ounces of blood were taken from her about two hours since; very little serum has separated from the clot. The same treatment, by brandy, ether, dry heat, &c. as in the other cases here.—Two o'clock, P. M. Pulse like a thread, so feeble that I cannot count it; extremities quite cold; no cramps; fingers and nails of a purplish blue colour; is restless, moans, and complains of pain at the stomach.

December 6th, much bloody fluid came from the bowels during the night; she died at two o'clock this morning. She passed no urine during her illness; the duration of which was about 24 hours.

## December 7th.

MRS. BELL, aged 63 years, living in Baine's-lane, the widow of William Bell, who died of Cholera on the 3rd of this month. At seven o'clock yesterday evening, she was in the room of a neighbour, apparently in good health; at nine o'clock, she had cramps in the legs, vomiting and purging, but not severe; and the surface of the body became cold. Mr. Embleton saw her at ten o'clock, and endeavoured, but in vain, to bleed her. Brandy, and nitric ether and camphor were given to her, and dry heat was applied to the body. The cramps, vomiting and purging, at no period severe, ceased entirely during the night. At nine o'clock this morning (the 7th) she was in a state of great collapse, cold and without pulse; and she died at ten o'clock A. M. The duration of her illness was 13 hours.

## December 7th.

THOMAS HUTTON, aged 68 years, from the Workhouse, where he was taken ill this morning, at five o'clock, with severe vomiting and purging, and cramps in the legs and thighs: he was taken to the Cholera Hospital.—Twelve o'clock, he has some pain at the precordia, the pulse imperceptible, hands cold and blue, tongue cold, respiration unaffected, lips blue: the purging still continues, and the dejections contain bile; has passed some urine; he moans and is restless. Brandy and ammonia are being given to him, and dry heat applied to the body.—Two o'clock, P. M. his face is of a leaden-blue colour, fingers shrunk and blue, hands and feet cold and damp, respiration easy, no pulse; the vomiting, purging and cramps have ceased. At the

request of Professor Majendie, twelve grains of sulphate of quinine have been given. From six to eight cubic inches of oxygen gas were injected into the rectum, and soon afterwards he exclaimed that he was much better, that he could walk if he had his crutches; the pulse also returned with rapidity to the wrist; but in about five minutes he sunk again into his former state of collapse.—At three o'clock, P. M. he complained of violent pain in the epigastrium, had great difficulty of breathing, became very restless; and died at five o'clock, P. M. his illness having lasted 12 hours.

#### December 7th.

SUSANNA CLARK, aged 18 years, living in Maude's-court, High-street, Sunderland; the house where she is, closely adjoins the premises of the Gas Works; and the character of many of the houses in the court is bad. S. Clark resides with an aunt and uncle, who occupy two rooms in the second story of a house, the rooms being decently furnished and clean. On Monday, December 5th, about five o'clock in the evening, this girl complained of uneasiness and distension in the stomach and bowels, her countenance became pallid and expressive of much anxiety and distress, and she was attacked with vomiting and purging of bilious fluids, and with cramps. She continued in this state until eight o'clock in the evening, when she was seen by Mr. Grecian, a surgeon, who took from her arm four ounces of blood, which came from the vein with difficulty, by drops only, and looking like treacle or tar. The pulse was feeble, and not affected by the bleeding. As

the extremities were cold, friction with hot flannels was used, and bottles of hot water were applied to the body. She took brandy, and a mixture containing two drachms of laudanum, and some capsicum and ammonia in half a pint of camphorated water; this stopped the vomiting. During the night she was much better, and on Tuesday morning her pulse became full, the surface of her body quite warm, and she complained of little excepting a pain in the head; her amendment was such that her aunt left home, and returned on Wednesday morning, the 7th, when she found her niece cold, and apparently almost lifeless, though still quite sensible. At this time she was without pulse, her hands, arms and breast of a leaden-blue colour, and her eyes deeply sunk in their orbits; in this state I saw her at two o'clock, P. M. the disease having returned in this aggravated form soon after the preceeding midnight, when she again had cramps in the legs, and vomiting and purging, the fluids ejected this time being inodorous, and resembling rice-water. Heat had been again, this morning, applied to the body, and brandy, ammonia, &c. given, but without benefit.—At four o'clock, P. M. she remained in the same state of collapse, and quite sensible; but at six she had become comatose, and died a few minutes after eight. Early in the day she had cramps in the legs, and vomiting and purging, of white and inodorous fluids.—Before the Monday evening, the girl's health had been very good; and the uncle and aunt said that they were unacquainted with any family in which a case of Cholera had occurred. Permission to open the body was, with some difficulty, obtained, and only upon the condi-



tion of doing it the same night; and accordingly it was done between eleven and twelve o'clock, three hours after death. The friends would not allow the head to be examined; and, owing to the number of persons that crowded into the room, the examination of the chest, belly and pelvis could not be made in a satisfactory manner.

Autopsy; three hours after death. No change had taken place in the external appearances, excepting that the blue colour of the hands and arms was less than during life. The face and lips were pale; and the dark areola still remained around the eyes. On the right side of the chest the lungs were firmly attached to the pleura of the ribs, by some old adhesions; on the left side there were no adhesions. At their posterior part the lungs were somewhat gorged with fluid blood, but not anteriorly; their structure was quite healthy. The pericardium was healthy, it contained rather more than the usual quantity of secretion within it. The right side of the heart was much distended with fluid blood; it contained only a small quantity of coagulum; a distension of the venous system of the trunk generally was observed. The heart was free from disease. The whole peritoneal surface of the abdominal muscles, and of the viscera of the belly and pelvis, exhibited a remarkable dryness; but in every other respect the external appearance of the liver, stomach, and intestines was natural. The stomach was distended with flatus, and contained only a little mucus; the mucous membrane not softened, slightly reddened in some places, and corrugated toward the pylorus, where the florid appearance was most manifest. The duodenum in parts slightly reddened on its mucous surface,

and containing no trace of bile:—the whole tract of the intestines contained much white pulpy matter, without the least odour of fœces, and its mucous membrane in places a little injected. The transverse arch of the colon was much contracted in its diameter. The spleen firm, but healthy in structure: the liver was healthy, and not unusually full of blood. The gall bladder was full of dark greenish bile. The kidneys were healthy. The urinary bladder was small, contracted, and close behind the pubes; it contained no urine. No other part was or could be examined.

#### December 8th.

SUSAN ROACH, 40 years of age, was taken ill at eight o'clock, A. M. but was not seen by any medical man until nine o'clock in the evening, when she was visited by Dr. Ogden and Mr. Embleton, who accidentally heard of her illness, while they were visiting another patient in her neighbourhood. She lives in a cellar, in Burrel's-court, Baine's-lane; her room is eleven steps below the level of the street, and the only furniture in it an old bed and a trunk. She is married, and her husband and three children live with her in this place. When seen by Dr. Ogden, her extremities were cold and livid, but the surface of the body was not much below the natural temperature; her tongue and breath were cold; the pulse could be felt at the wrist; and during the day, she had had cramps, great uneasiness about the pit of the stomach, and vomiting and purging of inodorous fluids, resembling thin gruel in appearance. She was bled, with difficulty, to the extent of about four ounces;

brandy and other ordinary stimulants were given, and dry heat, by means of friction, bottles of hot water, &c. was applied to the body.

December 9th. Is better, but refuses to go to the Cholera Hospital, to which her husband is willing that she should be removed, provided she herself consents. The stimulants were ordered to be given in smaller quantities.

December 10th. Is better, but much distressed by the illness of her husband. She was removed, with her husband, to the Hospital to day.

December 11th. Convalescent.

#### December 10th.

JOHN ROACH, aged 45 years, a labourer, the husband of Susan Roach ; a strong and tall man, said to be temperate, was at work all day yesterday, the 9th, has slept with his wife during her illness, and was in good health until two o'clock, A. M. to day, when he was attacked with Cholera. He was not visited until half past eleven o'clock, A. M. when I went to his habitation in company with Dr. Ogden, expecting to find only the woman ill. The husband was then cold, his hands blue, and the skin of the fingers corrugated ; no pulse in the radial or brachial arteries, the tongue quite cold, the countenance exhibiting the remarkable depression and collapse observed in Cholera of a bad type, and he was constantly moaning, but unwilling to be disturbed ; he has had severe cramps, and much vomiting and purging of fluids similar to those passed by his wife, but these have now ceased. He was removed to the Cholera Hospital, and his children sent to the poor house.—Two o'clock, P. M. Dry

heat has been applied to the body, and frictions have been used, but without producing any permanent warmth; brandy and ammonia have been given; but he remains in the same state.—Four o'clock, P. M. No improvement; is still perfectly sensible, and can sit on the night chair; he has a frequent disposition to go to stool, but passes nothing; he has voided no urine. A plaster containing ammonia was applied to the back, and a hot iron passed over it, but no sensible effect was produced.\* Treatment the same. He died at six o'clock, P. M.; the duration of his illness being 16 hours.

#### November 21st.

WILLIAM KNELL,† aged 30 years, a pilot, living in Mill-street. On the 20th he was out at sea, but returned home in the evening with his clothes very wet, and having fasted long. At nine o'clock in the morning of the 21st he was out of his house, but soon after his return home he was attacked with Cholera. He was seen about mid-day; his pulse was then almost imperceptible, his hands and face blue, respiration difficult, countenance indicating much depression, eyes sunk; he had cramps, but the vomiting and purging with which the attack began had ceased.—At two o'clock, P. M. he was removed to the Cholera Hospital, where he died tranquilly in the evening. At the commencement of his illness he was attended by his sister Mrs. Elliot, and by his mother Mrs. Knell, who resided sometimes with him and sometimes with her daughter Mrs. Elliot.

\* This was done at the suggestion of a Surgeon from Manchester.

† Communicated by Mr. Ainsworth.

November 24th.

ISABELLA ELLIOT, a niece of the pilot Knell, aged 5 years, and living in Warren-street, was taken ill on Thursday morning (the 24th) with spasms, vomiting and purging. She was visited at ten o'clock, A. M. when her extremities were very cold, countenance and fingers blue, eyes deeply sunk in their orbits; and there was still vomiting of fluids like rice-water. The child was put into a warm bath, and some brandy and small quantities of laudanum were given to her.—Four o'clock, P. M. Breathing difficult, temperature of the extremities and of the trunk increased, pain at the stomach, countenance still somewhat livid but the expression more intelligent, no cramps. A blister or sinapism was directed to be put over the stomach, but the parents would not apply it: a solution of carbonate of ammonia was prescribed.—Ten o'clock, P. M. The circulation restored, skin warm, countenance improving. She was ordered to take some compound spirit of ammonia, magnesia, ginger and two grains of calomel every hour; and a warm water and turpentine injection was given.

November 25th, noon. Skin warm, no vomiting, purging continues, countenance lively and expressive, but the eyes still sunk; the other symptoms are favourable.—Nine o'clock, P. M. Eyes more lively, respiration free, face flushed, surface of the body hot, pulse rapid, is restless and feverish. She was ordered to be bathed with vinegar and water.

November 26th, one o'clock P. M. The child appears to be much improved, her pulse is quick. She has had an injection containing *Ol. Terebinthinæ*; and has taken some



rhubarb and magnesia. Some bile is observed in the dejections.

November 27th, ten o'clock, A. M. She is restless, the pulse quick, much purging, the conjunctiva is much injected. —Seven o'clock, P. M. Breathing difficult, skin hot, spasms of the abdominal muscles, conjunctiva becoming dim and opaque, lips dry, and the gums covered with black sordes. She died at four o'clock in the morning of Monday, the 28th.\*

#### November 28th.

THOMAS ELLIOT, a pilot, aged 34 years, the father of Isabella Elliot, and living in Warren-street. At two o'clock on Monday morning, the 28th, he was visited by Mr. Ainsworth and Mr. Torbock, who found him in a state of extreme collapse;—the eyes sunk and turned upwards, the cheeks shrunk, lips dry, breath cold, speaking in a feeble tone and only a few words at a time; no pain in the chest, stomach or bowels, but occasional purging, under which he almost expired; violent cramps in the legs, the hands cold, the fingers shrunk in size, and no pulse. Two large bladders of oxygen gas were administered to the patient, by inhalation, which caused the pulse to return to the wrist; and half an ounce of liquor ammoniæ was given, and the same quantity repeated half an hour afterwards.—Ten o'clock, A. M. Pulse now perceptible; cramps, vomiting and purging have now ceased, extremities and surface of the trunk warm, countenance still collapsed, breathing difficult. He has had brandy given to him during the morning, and dry

\* This case was communicated to me by Mr. Ainsworth.

heat has been applied to the body.—Two o'clock, P. M. Pulse increasing in rapidity, some fever; the stimulants were now omitted.

November 29th. The feverish state has increased in intensity, he has pain in the head, and is very restless.

November 30. The fever has assumed the form of bad typhus, Elliot has delirium at times, he has passed no urine during his illness, and the bowels are now quite soft and free from pain; the dejections contain bile. Some aperient medicine has been given to him.

December 4th. This patient gradually became worse, the delirium continuing, and the eyes becoming much injected; but at no period was he unmanageable. Nothing was done for him during the last part of his illness, on account of the prejudices of his wife, who thought that a sinapism, applied over the stomach of her brother, the pilot Knell, killed him. On the night of Friday, December the 2nd, Elliot sunk into a state of coma, from which he was with difficulty roused, and he died on Sunday night, December the 4th; having passed no urine since the preceding Monday, when he was first taken ill.

Elliot, his wife and four children, and sometimes his wife's mother, Mrs. Knell, lived in a single room, an attic, in a house occupied by five other families, each family having only a single room. Elliot's room was lighted by a very small window in the roof of the house; the room itself was always dirty and ill ventilated. Both the parents slept with their daughter Isabella during her illness; and on the 26th of November, the father was out at sea, and returned home in the evening very wet; on the 27th he did not

complain of illness, but was seized with Cholera on the following night.

December 7th.

MRS. KNELL, aged 66 years, the mother of the pilot Knell, and of Thomas Elliot's wife; with the latter she has lately been living in Warren-street, where she now is. She has been ailing for about a week; and last night about eight o'clock she was attacked with vomiting, purging and cramps; the vomiting ceased in a short time, and the purging also at six o'clock this morning, the 7th.—Twelve o'clock. The extremities are now cold and damp, the lips and nails blue, voice hoarse and feeble, countenance pale and collapsed, eyes sunk in their orbits, no pulse; she lies quite motionless in bed, but is quite sensible, speaking a few words when addressed. The temperature of the air in her room and near the bed, was  $77^{\circ}$ ;—the temperature of her hand was  $70^{\circ}$ ;—of her mouth  $86^{\circ}$ . Her respiration was easy, and 32 in the minute; and the action of the heart too feeble to be counted.—Heat had been applied, by means of hot flannels, &c. to the body; and she had taken brandy, spirit of nitric ether and some other stimulants. At four o'clock in the afternoon she remained in the same state, no reaction having taken place; and she died at eight o'clock at night, continuing sensible almost to the last minute. The duration of her illness was 24 hours.

December 10th.

ALICE STAFFORD, aged 7 years, living in Fisher's-row. The houses in this row are in general decently furnished,

and they are chiefly inhabited by sailors and pilots; the situation is very open; it is near to Warren-street, but is separated from it by a corner of the barracks. Alice Stafford is a niece of the deceased pilots, Knell and Elliot; her parents keep a small public house which is decently furnished. The child was attacked with Cholera last night at eleven o'clock, having been previously in good health. The surface of the body soon became cold and damp, and the fingers and nails of an indigo colour;—she had during the night vomiting and purging of fluids like thin gruel; and was attended by Mr. Cook, who administered the usual stimulants, as brandy, &c. and directed the diligent application of dry heat to the whole body. She, however, remained in the same state of collapse, pulseless and cold when external heat was not applied; but she continued quite sensible until between nine and ten o'clock of this morning, the 10th. At eleven, when I saw her last, she was comatose, and died at twelve; the duration of her illness being 13 hours.

#### December 11th.

ISABELLA CARR, aged 6 years, went to bed last night in good health, but during the night she was restless and had some diarrhoea. At eight o'clock this morning she was attacked with severe vomiting of a watery fluid, and purging of liquid matters tinged slightly with bile and of a faint odour of fœces; and she soon afterwards became very cold. Before mid-day she was visited by Dr. Ogden and Mr. Embleton, who found her without pulse, cold, her hands blue, eyes much sunk in their orbits, and the vomiting and

purging still going on. Heat was diligently applied to the body, by means of bottles of hot water, hot flannels and friction; and she took warm brandy and water and other diffusible stimulants. At three o'clock, P. M. she died.

About three weeks since, an aunt of this child was taken ill with Cholera, and recovered; and subsequently two of her children had the disease and both died. Mrs. Carr, the mother of Isabella Carr, about 40 years of age, was attacked with Cholera on Wednesday last, the 7th; but soon after the commencement of her illness she was seen by Mr. Kennedy and Mr. Embleton, who took from her nearly a pint of blood, her pulse then being rather feeble, and the temperature of the skin but little reduced below the natural standard. She had also half a drachm of laudanum in an ounce of castor oil, and afterwards small doses of calomel and capsicum. Under this treatment the progress of the disease appeared to be arrested, and she is now, December the 11th, convalescent, but much distressed on account of the illness and death of her child. Another daughter has had some diarrhoea and uneasiness in the bowels, which was removed by some mild aperient medicine. This family, now consisting of the parents and two children, live in two small rooms plainly furnished but clean, situated in Stump's-lane.



The cases recorded in the preceding pages, are nearly exact transcripts of the notes, taken at the bed-side of the patients, such verbal alterations only having been made as were required to make the language correct and intelligible.

## TABULAR STATEMENT OF THE CASES.

Name.	Age. Years.	Residence.	Duration of Illness.	{ Died in the Stage of collapse, reaction. }		Recovered.
Mrs Wardell,	50	Baine's-lane,				recovered. <i>f</i>
Mrs Robson,	53	Low street,	22 hours,	died.		
Susan Nanson,	19	Baine's-lane,				recovered. <i>f</i>
Margaret Rauntree,	21	Union-lane,	24 —	died.		
James Wood,	8	Sailor's-alley,	66 —		died.	
Richard Holland,	9	Workhouse,	17 —	died.		
Mary Freeman,	20	Baine's-lane,	25 —	died.		
Isabella Cowan,	10	Sailor's-alley,				recovered.
John Cowan,	3	Ditto				recovered.
Jane Davidson,	46	Mill-street,	18 —	died.		
Elizabeth Scott,	50	Workhouse,	6 days,		died.	
Mary Campbell,	80	Ditto	30 hours,	died.		
Dalziel,	2½	Baine's lane,	24 —	died.		
William Bell,	67	Ditto	24 —	died.		
Mrs. Fairley,	60	Cholera Hospital,	9 —	died.		
Lawson,	4	Workhouse,				recovered.
Jane Todd,	54	Ditto	3 days,	died.		
Elizabeth Brown,	74	Ditto	24 hours,	died.		
Mrs. Bell,	63	Baine's-lane,	13 —	died.		
Thomas Hutton,	68	Workhouse,	12 —	died.		
Susan Clark,	18	Maude's-court,	3 days,	died.		
John Robson,	15	Ayre's-quay,	9 hours,	died.		
James Robson,	7	Ditto	9 —	died.		
Catherine Robson,	11	Ditto				recovered.
Susan Roach,	40	Baine's-lane,				recovered.
John Roach,	45	Ditto	16 —	died.		
William Knell,	30	Mill-street,	10 —	died.		
Isabella Elliot,	5	Warren-street,	4½ days,		died.	
Thomas Elliot,	34	Ditto	7 —		died.	
Mrs Knell,	66	Ditto	24 hours,	died.		
Alice Stafford,	7	Fisher's-row,	13 —	died.		
Todd,	30	Warren-street,	16 —	died.		
Eliza. Biddlestone,	23	Hedworth-st.	26½ —	died.		
Biddlestone,	6	Ditto				recovered.
Isabella Carr,	6	Stump's-lane,	7 —	died.		
Mrs. Carr,	40	Ditto				recovered.

TABLE OF THE PRICES OF THE PRINCIPAL COMMODITIES IN THE MARKET

WHEAT		BARLEY		OATS	
London	100	100	100	100	100
1840	100	100	100	100	100
1841	100	100	100	100	100
1842	100	100	100	100	100
1843	100	100	100	100	100
1844	100	100	100	100	100
1845	100	100	100	100	100
1846	100	100	100	100	100
1847	100	100	100	100	100
1848	100	100	100	100	100
1849	100	100	100	100	100
1850	100	100	100	100	100
1851	100	100	100	100	100
1852	100	100	100	100	100
1853	100	100	100	100	100
1854	100	100	100	100	100
1855	100	100	100	100	100
1856	100	100	100	100	100
1857	100	100	100	100	100
1858	100	100	100	100	100
1859	100	100	100	100	100
1860	100	100	100	100	100
1861	100	100	100	100	100
1862	100	100	100	100	100
1863	100	100	100	100	100
1864	100	100	100	100	100
1865	100	100	100	100	100
1866	100	100	100	100	100
1867	100	100	100	100	100
1868	100	100	100	100	100
1869	100	100	100	100	100
1870	100	100	100	100	100
1871	100	100	100	100	100
1872	100	100	100	100	100
1873	100	100	100	100	100
1874	100	100	100	100	100
1875	100	100	100	100	100
1876	100	100	100	100	100
1877	100	100	100	100	100
1878	100	100	100	100	100
1879	100	100	100	100	100
1880	100	100	100	100	100
1881	100	100	100	100	100
1882	100	100	100	100	100
1883	100	100	100	100	100
1884	100	100	100	100	100
1885	100	100	100	100	100
1886	100	100	100	100	100
1887	100	100	100	100	100
1888	100	100	100	100	100
1889	100	100	100	100	100
1890	100	100	100	100	100
1891	100	100	100	100	100
1892	100	100	100	100	100
1893	100	100	100	100	100
1894	100	100	100	100	100
1895	100	100	100	100	100
1896	100	100	100	100	100
1897	100	100	100	100	100
1898	100	100	100	100	100
1899	100	100	100	100	100
1900	100	100	100	100	100

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